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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/512,003

07/05/2005

Ramon John Bambach

7081P002

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02/22/2008

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EXAMINER

LEE, BENJAMIN P

ART UNIT

PAPER NUMBER

3641

MAIL DATE

DELIVERY MODE

02/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/512,003	Applicant(s) BAMBACH, RAMON JOHN	
	Examiner BENJAMIN P. LEE	Art Unit 3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-27,30,31,33-35,41-45,47 and 48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-24,26,27,30,31,33-35,41-43,45,47 and 48 is/are rejected.
- 7) ☒ Claim(s) 25 and 44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/13/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant has amended claims 22-27, 30, 31, 33-35, 41, 42, 44, 45, 47 and 48 and canceled claims 1-21, 28, 29, 32, 36-40, 46 and 49-64.

Response to Arguments

2. Applicant's arguments with respect to claims 22-27, 30, 3, 33-35, 41-45, 47 and 48 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 47 is objected to because of the following informalities: Claim 47 depends from canceled claim 46. Examiner assumes Applicant intended that claim 47 depend from claim 41. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear how the propellant provides part of the first retaining means.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 22, 23, 26, 27, 30, 31, 33-35, 41-43, 45, 47 and 48 rejected under 35 U.S.C. 102(b) as being anticipated by TAUSCHEK et al. (U.S. Patent 2099993).

6. In regards to claims 22 and 41, TAUSCHEK et al disclose a projectile sealing arrangement including at least two projectiles coupled together by a frangible coupling (see TAUSCHEK et al fig. 9 following) to form a chain wherein each projectile has a head portion, tail portion and a respective propellant charge (see TAUSCHEK et al fig. 9 following), and wherein the frangible coupling includes a first retaining means disposed on the tail portion of the leading projectile engaged by a screw action with a second retaining means disposed on the head portion of the trailing projectile. Note that TAUSCHEK et al teach projectiles with a head portion that inserts into a tail portion of a proceeding projectile and that the projectiles retaining means are capable of engagement by a "screw action" (twisting one projectile into the other).

In regards to claims 23 and 48, TAUSCHEK et al disclose that the tail portion of the leading projectile and the head portion of the trailing projectile form a seal around the propellant charge of the leading projectile (page 2, column 2, lines 65-70). Note that the

while the head portion is inserted into the tail portion, a gas-tight barrier is formed “around” the propellant charge to at least some degree.

7. In regards to claim 26, TAUSCHEK et al disclose that the seal includes contact between complementary surfaces on the leading and trailing projectiles (see TAUSCHEK et al fig. 9 following).

8. In regards to claims 27, 30 and 42, TAUSCHEK et al disclose that the first and second retaining means includes complementary spigot and socket on the trailing and leading edges respectively (see TAUSCHEK et al fig. 9 following). Note that TAUSCHEK et al disclose a ball and socket retaining means which constitutes complementary spigot and socket as claimed.

9. In regards to claims 31 and 43, disclose that either the first or second retaining means is frangible (see TAUSCHEK et al fig. 9 following). Note that the “ball” and “socket” disclosed by TAUSCHEK et al in figure 9 constitutes a “frangible coupling” since they separate or “break”).

10. In regards to claims 33 and 45, TAUSCHEK et al disclose that the coupling is broken by combustion of the propellant charge in the leading projectile. Note that TAUSCHEK et al teach that when the propellant is ignited, the coupling is severed indirectly by the ignition of the propellant charge.

11. In regards to claim 34, TAUSCHEK et al disclose that the propellant charge is contained in the tail portion of the leading projectile and provides part of the first retaining means. Note that any portion rear of the center of the TAUSCHEK et al projectile constitutes a "tail" portion, acts as portion of the retaining means and contains at least a portion of the propellant.

12. In regards to claims 35 and 47, TAUSCHEK et al disclose that the first retaining means includes a socket formed in the propellant charge. Note that the "socket" of TAUSCHEK et al is formed in the tail portion of the projectile and at least partially in the propellant charge.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

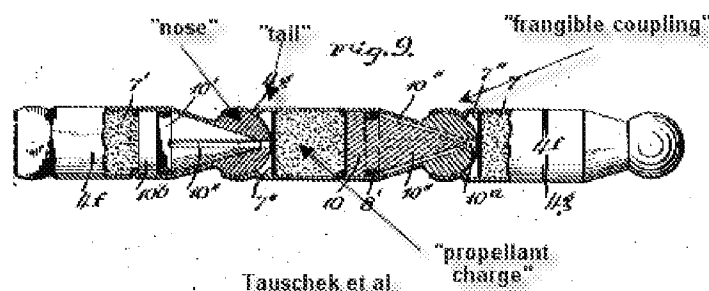
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over TAUSCHEK et al. (U.S. Patent 2099993) in view of HANS-LUDWIG SCHIRNEKER et al. (U.S. Patent 3412681).

14. In regards to claim 24, TAUSCHEK et al fail to teach that the seal includes an adhesive connection between the leading and trailing projectiles. However, HANS-LUDWIG SCHIRNEKER et al teach using an adhesive to connect multiple projectiles together in a stack (col. 8, lines 65-72). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to utilize an adhesive or glue to "temporarily" connect the stack of projectiles of TAUSCHEK et al as taught by HANS-LUDWIG SCHIRNEKER et al, to help stabilize the stack of projectiles prior to loading or prior to firing.



Allowable Subject Matter

15. Claims 25 and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art fails to teach, in combination with all the limitations of each respective base claim (22 and 41), that the first and second retaining means are threadably engaged or threaded.

Summary/Conclusion

16. Claims 22-24, 26, 27, 30, 31, 33-35, 41-43, 45, 47 and 48 are rejected. Claims 25 and 44 are objected to.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action. Any inquiry concerning this

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communication or earlier communications from the examiner should be directed to Benjamin P. Lee whose telephone number is 571-272-8968. The examiner can normally be reached between the hours of 8:30am and 5:00pm on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/B. P. L./

Examiner, Art Unit 3641

/James S. Bergin/

Primary Examiner, Art Unit 3641